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# मानक

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IS 12384 (1988): Rayon Duck for Industrial Use [TXD 33: Industrial Fabrics]



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*Indian Standard*  
**SPECIFICATION FOR  
RAYON DUCK FOR INDUSTRIAL USE**

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**BUREAU OF INDIAN STANDARDS**  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

# Indian Standard

## SPECIFICATION FOR RAYON DUCK FOR INDUSTRIAL USE

### 0. FOREWORD

**0.1** This Indian Standard was adopted by the Bureau of Indian Standards on 30 May 1988, after the draft finalized by the Industrial/Engineering Fabrics and Geotextiles Sectional Committee had been approved by the Textile Division Council.

**0.2** Rayon ducks are increasingly being used as base fabric for PVC coated tarpaulins and storage covers. Rayon duck is also used for shoe lining.

**0.3** The elongation at break of rayon duck is an important requirement. However, it has not been included due to non-availability of reliable data. It is intended to incorporate this require-

ment in due course. Till such time this may be according to the agreement between the buyer and the seller.

**0.4** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

\*Rules for rounding off numerical values (*revised*).

### 1. SCOPE

**1.1** This standard prescribes the constructional particulars and other requirements of four varieties of rayon ducks for industrial use. The rayon ducks may be undyed or dyed.

**1.2** This standard does not specify the general appearance, feel, finish, etc, of the cloth.

### 2. MANUFACTURE

**2.1 Yarn** — High tenacity rayon yarn shall be used for the manufacture of the rayon duck. The yarn shall be reasonably free from spinning, doubling, and other prominently noticeable defects.

**2.2 Cloth** — The cloth shall be woven in plain weave and should be free from filling and dressing materials, and substances liable to cause subsequent tendering. The cloth may be dyed or undyed as required by the buyer. The dyed cloth should be free from stains, streaks, patches and specks.

### 3. REQUIREMENTS

**3.1 Constructional Particulars** — The constructional particulars of undyed or dyed rayon duck shall conform to the requirements of Table 1 except the denier (tex) of yarns which is given for guidance of the manufacturers.

**3.2** The rayon duck shall also conform to the requirements laid down in Table 2.

**3.3 Sealed Sample** — If, in order to illustrate or specify the general appearance, feel and such other characteristics of the rayon duck, a sample has been agreed upon and sealed, the supply shall be in conformity with the sample in such respects.

**3.3.1** The custody of the sealed sample shall be a matter of prior agreement between the buyer and the seller.

### 4. MARKING

**4.1** The rayon duck shall be marked with the following:

- a) Manufacturer's name, initials or trade-mark;
- b) Name of the material;
- c) Variety number;
- d) Identification mark at both ends;
- e) Month and year of manufacture;
- f) Length and width of the piece; and
- g) Any other particulars required by the buyer or by the law or regulation in force.

TABLE 1 CONSTRUCTIONAL PARTICULARS OF RAYON DUCK FOR INDUSTRIAL USE

( Clause 3.1 )

VAR- IETY No.	LINEAR DENSITY (APPROXIMATELY) AND PLY OF YARN		ENDS PER dm	PICKS PER dm	MASS	BREAKING STRENGTH ON 2.5 × 20 cm STRIPS, Min		ELONGATION AT BREAK, PERCENT		LENGTH ( see NOTE 2 )	WIDTH	WEAVE
	Warp	Weft				Warp Way	Weft Way	Warp Way	Weft Way			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Denier (Tex)	Denier (Tex)			g/m <sup>2</sup>	N	N			m	cm	
1.	1650/2 (183 × 2)	1 650/2 (183 × 2)	47	32	315	1 600	1 075	15	10	As agreed to between the buyer and the seller as declared    As agreed to between the buyer and the seller as declared    Plain		
2.	1650/2 (183 × 2)	1 650/2 (183 × 2)	55	39	340	1 850	1 325	15	10			
3.	1650/3 (183 × 3)	1 650/3 (183 × 3)	63	39	615	3 200	1 950	15	10			
4.	1650/4 (183 × 4)	1 650/4 (183 × 4)	47	32	630	3 200	2 125	15	10			
Tolerance, percent	—	—	±1	±2	±5	—	—	±5	±5	—	±5	—
Method of Test —	—	—	IS : 1963-1981*		IS : 1964-1970†	IS : 1969-1985‡ ( see also Appendix A )		IS : 1969-1985‡		IS : 1954-1969§		Visual

NOTE 1 — 1N ( Newton ) is approximately equal to 0.102 kgf.

NOTE 2 — No negative tolerance shall be permitted on the length of piece.

\*Methods for determination of threads per unit length in woven fabrics ( second revision ).

†Methods for determination of weight per square metre and weight per linear metre of fabrics ( first revision ).

‡Methods for determination of breaking load and elongation of woven textile fabrics ( second revision ).

§Methods for determination of length and width of fabrics ( first revision ).

TABLE 2 REQUIREMENTS FOR RAYON DUCK FOR INDUSTRIAL USE

( Clause 3.2 )

SL No.	CHARACTERISTIC	REQUIREMENTS	METHOD OF TEST
(1)	(2)	(3)	(4)
i)	Shrinkage or elongation, percent, Max	5	IS : 2977-1964*
ii)	Colour fastness ( for dyed duck ) to:		
a)	Light	4 or better	IS : 686-1985† or IS : 2454-1985‡
b)	Washing: Test 2	4 or better	IS : 3361-1979§

\*Method for determination of dimensional changes of woven fabrics ( other than wool ) on soaking in water,

†Method for determination of colour fastness of textile materials to daylight ( first revision ).

‡Method for determination of colour fastness of textile materials to artificial light ( xenon lamp ) ( first revision ).

§Method for determination of colour fastness of textile materials to washing: Test 2 ( second revision ).

**4.1.1** The rayon duck may also marked with the Standard Mark.

**NOTE** — The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act 1986 and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of Standard Mark may be granted to manufacturers or processors may be obtained from the Bureau of Indian Standards.

## 5. PACKING

**5.1** The rayon duck shall be packed in roll form in bales or cases in conformity with the procedure

laid down either in IS : 2195-1964\* or in IS : 2194-1963†, as required.

## 6. SAMPLING

**6.1** For ascertaining the conformity in respect of ends, picks, mass, breaking strength, elongation percent, length and width, the number of tests and criteria for conformity as given in IS : 3919-1966‡ shall be followed.

**6.2** For evaluating the conformity of the material in respect of shrinkage or elongation and colour fastness requirements, the scale of sampling and criteria for conformity as given in IS : 5463-1969§ shall apply.

\*Code for inland packaging of man-made fibre fabrics and man-made fibre yarn.

†Code for sea-worthy packaging of man-made fibre fabrics.

‡Method for sampling cotton fabrics for determination of physical characteristics.

§Method for sampling of cotton fabrics for chemical tests.

# APPENDIX A

(Table 1)

## PREPARATION OF TEST SPECIMENS FOR DETERMINING BREAKING STRENGTH AND ELONGATION

### A-1. PRINCIPLE

**A-1.1** The general practice in breaking strength tests is to ravel the test specimens to a width of 2.5 cm. However, in case of rayon ducks, where coarse plied yarns are used and the thread (end-picks) density is quite low, the strips are ravelled to a constant number of threads instead of a constant width. For example, if the number of threads per 2.5 cm is 15.5, three specimens having 16 threads and the other three specimens having 15 threads should be tested. Similarly, pro-rata adjustments have to be made in the number of specimens to be chosen based on the average number of threads per 2.5 cm.

### A-2. PREPARATION OF TEST SPECIMENS

**A-2.1** Cut six warpway and six weftway speci-

mens from different portions of samples under test, at random, in such a way that no two test specimens shall contain the same set of threads. In case of warpway testing, the specimen of 75 mm width shall be ravelled to the desired number of ends and in case of weftway testing, the specimen of 50 mm width shall be ravelled to the desired number of picks.

**A-2.2** The recommended rate of traverse for determining breaking strength and elongation is  $460 \pm 15$  mm/min.

**A-2.3** The specimen may be provided with suitable padding in order to avoid slippage during test.

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